EDUCATING WITH THE BRAIN IN MIND: THE USE OF POPULAR CULTURE IN BIBLE CLASS

BY

BRYANT D. LAUDE

A THESIS SUBMITTED TO THE FACULTY IN PARTIAL FULFILMEN OF THE REQUIERMENTS FOR THE DEGREE OF MASTER OF DIVINTITY

PROF. THOMAS KOCK
WISCONSIN LUTHERAN SEMINARY
MEQUON, WISCONSIN
FEBURAY 17, 2016

ABSTRACT

One of the most challenging aspects of a pastor's ministry is teaching people the truth of God's Word. This may sound easy, but any pastor knows that communicating the truth of Scripture in a way that people grab hold of it and make it their own is undoubtedly challenging. How does a pastor take God's Word and faithfully secure it into the hearts and lives of those in his flock? He has no choice but to use the tools that are available to him. Of course, he will rely solely on the most powerful message in the world, the gospel. Yet how will he teach that message? How will he introduce that message? How will he make that message theirs? This paper suggests that using popular culture in Bible Class is a natural answer for these questions. This paper takes a brief view of what popular culture is and how it affects individuals. It overviews the way the brain assimilates information. Finally, it bridges the gap between the way the brain learns and the use of popular culture. It does this by offering educational practices that reveal popular culture as a readily available teaching tool that aids a pastor in his never-ending task of teaching the truth of God's Word.

CONTENTS

ABSTRACT	i
INTRODUCTION	1
	2
SCRIPTURAL EXAMPLES OF USING POPULAR CULTURE	5
WHAT IS POPULAR CULTURE?	8
POPULAR CULTURE IS CONSUMED	11
POPULAR CULTURE INSTRUCTS	13
UNDERSTANDING THE BRAIN	17
HOW THE BRAIN PROCESSES INFORMATION	24
STRATEGIES FOR MEMORY RETENTION	28
POPULAR CULTURE AND THE BRAIN	33
CONCLUSION	36
BIBLIOGRAPHY	38

Introduction

It was over. There was no way it was going to happen. Five hours were wasted working on the same problem. I had finally come to the conclusion that it wasn't going to happen. Two years ago, I attempted to replace the harmonic balancer pulley on my car. I struggled against that pulley for a good portion of the day and the thing never budged. I even went out and bought an electric impact wrench, but I did not have enough power to break the bolt free. I tried my very best to improvise. I took long pieces of pipe to create an extended lever but nothing helped. After breaking off two socket wrenches and multiple trips to the hardware store to purchase things that might help, I finally realized that I didn't have the right tool I needed for the job. I needed a pneumatic impact wrench. It was every "handyman's" worst nightmare: not having the right tool for the job. One can improvise and make do with what he has, but the job is not going to be done efficiently or, in my case, at all.

It is extremely important to have the right tool for the task at hand. This is true for almost any situation in life. Whenever someone comes across a problem, they automatically look for the tools they will need to solve that problem. It would be silly for someone to have access to the right tool but not use it.

A pastor spends his life striving to embed the truths of God's Word deep into the hearts and minds of his members. This is no small task. It is an enormous responsibility. The pastor has a thorough understanding of Scripture. How will he communicate those truths to the flock under his care? With busy schedules in mind, a pastor will look for the most efficient way to promote learning. He will look for tools that are readily available to him. Would it be obvious to use popular culture as a tool to assist in this learning? Perhaps some would see that as an obvious tool; perhaps other would not. The thesis of this paper is that a pastor should regularly use and reference popular culture in his Bible classes because it promotes retention and retrieval of information in the brain.

Popular culture is a very powerful tool. It can be harnessed to promote the brain's natural process of handling and assimilating new information. Understanding the value of popular culture and its natural tendencies can broaden a pastor's educational scope. It can give him alternative options to the other educational tools that he already uses. This paper will provide an examination of the powerful effect that popular culture has on individuals and their understanding of the world they live in. It will also offer an overview of the way the brain

handles, process, and consolidates new information. It will give several brief explanations of different strategies that increase the brain's efficiency in storing memories, and finally it will offer an evaluation of how popular culture provides a natural avenue for the implementation of those strategies. However, before we get started, it makes the most sense to have a proper understanding of the value and role that Scripture plays in the learning process of any Christian.

It is not the intent of this author to say that popular culture will solve all of a pastor's problems in teaching his people. It is also not the intent of this author to say that a pastor needs to be completely immersed in and up-to-date with everything that is happening in popular culture. The intent of this thesis is to bring to the attention of the reader the wonderful tool that popular culture can be for a pastor in his role as an educator.

Scripture is Supreme

Before we consider how popular culture could be a valuable tool, it is wise examine what Scripture says about itself. To do this we need only to look to Paul's words in his letter to the Romans. "I am not ashamed of the gospel, because it is the power of God that brings salvation to everyone who believes" (Ro 1:16). Scripture is very clear. The power for salvation is found in the words of Holy Scripture. There is no other document or writing that exists that "is alive and active, sharper than any double-edged sword" (Heb 4:12). This profound truth must be recognized and remembered when teaching the truths of Scripture. Scripture alone has the power to create, sustain, and maintain faith.

Scripture by itself is completely sufficient. Nothing else is needed for a man to have salvation but the Word of God. Scripture affirms that God's Word is clear. The Psalmist says, "The unfolding of your words gives light; it gives understanding to the simple" (Ps 119:130). So much so, that even a child can understand them and have life. Paul says to Timothy, "and how from infancy you have known the Holy Scriptures, which are able to make you wise for salvation through faith in Christ Jesus" (2 Ti 3:15). From infancy Timothy knew the Holy Scripture. God has given us everything that we need for life and salvation in his Word. God's Word is sufficient.

However, faith is not just an academic understanding of God's Word. Saving faith or belief that Scripture is true, only comes from the Holy Spirit. The Word of God not only works

2

¹All Scripture passages are taken from the NIV 2011.

psychologically but supernaturally. A person cannot be saved by just understanding that Jesus paid for their sins. They have to believe it. There are things that God reveals to us in his Word that no man on earth could ever possibly believe without the working of the Holy Spirit. Paul himself says, "The person without the Spirit does not accept the things that come from the Spirit of God but considers them foolishness, and cannot understand them because they are discerned only through the Spirit" (1 Co 2:14).

This does not mean that we have a perfect understanding of every word that God has given to us. There are teachings in Scripture that are hard to understand. Peter attests to this truth when he comments on Paul's letters: "His letters contain some things that are hard to understand, which ignorant and unstable people distort, as they do the other Scriptures" (2Pe 3:16). People have distorted and will distort the truths of Scripture. This makes a pastor's role as an educator all the more important. A pastor must teach the Word clearly and in a manner that will enable his people to remember and retain the precious truths of Scripture.

Educating the flock in a meaningful way that is clear and accurate is something that every pastor works on throughout his entire life. This is something that takes great effort. Scripture talks about how we are to constantly search it, and how we are to pay attention to its message. "We also have the prophetic message as something completely reliable, and you will do well to pay attention [προσέχοντες] to it" (2 Pe 1:19). Peter indicates this is a continual process by using the present active participle. Every Christian is encouraged to study the Scriptures continually throughout their life. In fact, Luke clearly mentions the Bereans for this type of devotion toward Scripture. "Now the Berean Jews were of more noble character than those in Thessalonica, for they received the message with great eagerness and examined the Scriptures every day to see if what Paul said was true" (Ac 17:11). Meditating on the truths of God's Word is something that believers are encouraged to do every day. The psalmist makes this clear:

Blessed is the one who does not walk in step with the wicked or stand in the way that sinners take or sit in the company of mockers, but whose delight is in the law of the LORD, and who meditates on his law day and night (Ps 1:1,2).

Learning the Scriptures is a lifelong process. Perhaps we could say that a pastor has two goals throughout his ministry. The first is to grow in grace, wisdom, and in the truth of God's precious

Word. The second goal then becomes to communicate the truth of God in a way that people will understand and retain.

A major part of people understanding and retaining God's Word is to remember that God's Word also works psychologically. It works just like any other word that is spoken.

Jonathan Hein, states, "it is entirely impossible for a mere man to limit the power of God.

Therefore, it is equally impossible for a mere man to limit the power of God's Word. However, to the degree that we communicate poorly, we can prevent the Word from being received." The point being made is that pastors must strive to communicate God's Word in a way that does not place stumbling blocks in the way of the listener. Pastors must work to create situations where Scripture is communicated without distractions and interferences. They must create an environment where people have access to the truths that only it offers.

As Adolf Hoenecke clearly put forth, God's Word is not magical.³ It does not operate outside the use in which God intended for it. God's Word does not work by the physical touch or the mere recitation without understanding.⁴ Hoenecke goes so far as to state that those "...who attend the preaching of the Word without striving to understand what is preached are expecting Scripture to have a magical effect." The same can be said for a teacher or pastor who thinks the only thing that needs to happen is that the words are merely recited out loud and gives no attention to how they should be presented or used. The Word of God is important and powerful. Great care should be given to it whenever and wherever it is used.

This may seem like a very subtle distinction, but it is one that should be understood clearly. A pastor must understand that the Word of God works psychologically. That means that he will strive to find the best possible way to present the truths of Scripture in order for his

²Hein, Jonathan R, "Treasure in Jars of Clay: The Synergy Between the Instrumental and Ministerial Causes in God's Plan of Salvation." (WLS essay files, Accessed November 16, 2015); available from http://essays.wls.wels.net/handle/123456789/2157; Internet 15

³Adolf Hoenecke, *Evangelical Lutheran Dogmatics*. Vol. IV, IV vols. Milwaukee, Wis: Northwestern Pub House, 1999, 15

⁴An example of someone using the Scripture in a magical sense would be standing out on a street corner and reading God's Word in the original languages. If someone does not understand what is being read how can the Word work? Some people then like to make the argument; how is it possible for infants to understand the Holy Scriptures? There is a delicate balance that must be recognized here. God says that his Word has the power to create faith and sustain it, but we also know that the Scripture works psychologically. Therefore, Christians will strive to communicate the truths of Scripture in a way that people can easily understand, as well as, place all of their confidence in the truth that God's Word will accomplish what he desires and will achieve the purpose for which he sent it (Isa 55:10,11).

⁵Hoenecke, 15

people to understand them. This is not to say that the Word of God has no power or that some special formula must be imagined that will allow the power of God to be unleashed and revealed to those who hear it.

As a teacher of God's Word, the goal of a pastor is to embed the truths of God deep into the hearts of his people. As an educator of divine truth, the goal is to get out of the way of Scripture so that the power of God's Word may accomplish the purpose for which it was sent. In this thesis, popular culture is only to be seen as a teaching tool that is used to promote the learning of scriptural truths. The intent of this paper is to show the value that popular culture has in educating God's people with scriptural truths. Its intent is to highlight the benefits popular culture has on solidifying the understanding of scriptural truth. It should not be seen as a catalyst for the power of the Holy Scriptures. No credit should be given to it in the creation, strengthening, and maintaining of a person's faith.

Scriptural Examples of Using Popular Culture

Jesus lived among the people of Israel during the first century. For the majority of his ministry he was surrounded by people. Almost everywhere he went there were people wanting to hear his messages or to see if the miraculous things they had heard about him were true. Jesus took all those opportunities and he capitalized on them by teaching with a variety of different techniques. One of the more familiar teaching tactics he used was parables. Jesus was perfect at taking some spiritual truth and finding just the right way to explain it to his hearers. In doing so, Jesus embedded the scriptural truth in the mind of his hearers with a picture from the surrounding culture.

For example, take the parable of the Sower and the Seed. Jesus uses the very simple picture of a farmer scattering seed along the ground to teach some very important scriptural truths. This parable is effective because it takes something the hearers would have known and uses it to explain something challenging. These people would have been very familiar with the illustration of a farmer scattering seed. However, they needed some instruction on how the kingdom of God was received by people. By using this picture from their culture, Jesus was able to further their understanding of the scriptural truth. He did this by expressing something difficult in a manner that was clear and easily accessible to the people.

⁶Matthew 13:1-23; Mark 4:1-20; Luke 8:4-15

Jesus made this type of teaching a major aspect of his ministry. The Gospels record several instances where Jesus pictured elements from the culture around him and used them to teach the truth of the gospel. Jesus used those pictures because they were illustrations that the people could identify with and understand. Jesus did not pick illustrations or pictures the people could not identify with.⁷

Surprisingly, never once in Scripture does it record Jesus using a parable or a proverb about carpentry. This might seem odd, especially since the Bible seems to suggest that Jesus the son of Joseph was familiar with carpentry. Why didn't Jesus use some carpentry illustrations as his source for instruction in his parables? If Jesus was familiar with carpentry, why wouldn't he have used that knowledge in his instruction? Jesus chose to use illustrations from all different aspects of the culture, touching on different areas that everyone could have identified with. This does not mean that people in Jesus' time would not have understood the carpentry illustrations. It does show us that Jesus chose to use pictures and illustrations from a variety of different aspects from his culture. He wanted to make sure that the people he was instructing could easily access the message he was teaching.

Jesus used pictures from all different professions: farming, working with animals, threshing and other pictures that people would have readily understood. Aaron Mueller stated it this way: "Jesus' methods were not because he was affected by culture but because he was a student of it and understood its effect. He framed God's theology in parables and illustration to reach the people within their own context." Jesus understood the people and where they were in life. He understood them perfectly. He understood their struggles, their worries, and their

⁷It should be noted that some people feel the parables that Jesus used were a tactic for him to conceal his message from unbelievers who had hardened their hearts against God's Word. They come to this conclusion from a faulty understanding of what the prophet Isaiah said. "You will be ever hearing but never understanding; you will be ever seeing but never perceiving...." (Isaiah 6:9, 10). People who come to this faulty conclusion focus on the method Jesus taught in and not the unbelievers' unbelief. However, the main point of what Isaiah is saying is that even though they understood what Jesus was teaching they still did not believe. The emphasis is clearly on the unbelievers' unbelief and not on the method in which the message was taught. These parables were not meant to confuse but to clarify and they still stand as an excellent example and teaching tool for any teacher of God's Word to utilize.

⁸Mark 6:2,3 "Where did this man get these things?" they asked. "What's this wisdom that has been given him? What are these remarkable miracles he is performing? ³ Isn't this the carpenter? (NIV 2011)

⁹Aaron T. Muller, "Jesus Taught the Way of Life –And So Do We" (WLS essay files, Accessed November 16, 2015); available from http://essays.wls.wels.net/handle/123456789/4123, 9

¹⁰John says, "But Jesus would not entrust himself to them, for he knew all people. ²⁵ He did not need any testimony about mankind, for he knew what was in each person" (Jn 2:24, 25) Everything that Jesus did was perfect, including

triumphs. He lived in their culture and understood it. Jesus used his knowledge of the culture in his ministry. In fact, it was one of the more distinguishing aspects of his ministry. Jesus taught that way because he cared deeply for the people that he was serving. He wanted to make sure that they understood his message.

The Apostle Paul knew this well, too:

²⁰ To the Jews I became like a Jew, to win the Jews. To those under the law I became like one under the law (though I myself am not under the law), so as to win those under the law. ²¹ To those not having the law I became like one not having the law (though I am not free from God's law but am under Christ's law), so as to win those not having the law. ²² To the weak I became weak, to win the weak. I have become all things to all people so that by all possible means I might save some. (1 Co 9:22, 23)

Paul knew that in order to reach the people he was serving he had to know them and be among them. He knew that it was better for the people he was serving if he set aside some of the rights and freedoms that were clearly his. He did that with the goal of winning some of the people over to the truth. Paul did all this to spread the gospel. Paul's ministry provides another great example for knowing the people and their culture. He shows us how important it is to understand the culture and the people we are ministering to.

A specific example of this can be seen in the way Paul address the people of Athens on his second missionary journey. He met the people where they were. "So he reasoned in the synagogue with both Jews and God-fearing Greeks, as well as in the marketplace day by day with those who happened to be there" (Ac 17:17). He made it his point to understand the way the people of Athens operated. Verse 16 says, "...he was greatly distressed to see that the city was full of idols" (Ac 17:16). Paul observed them and their culture. Later on in this account Paul addressed the men of Athens. What do we find in his opening statement? "People of Athens! I see that in every way you are very religious. ²³ For as I walked around and looked carefully at your objects of worship, I even found an altar with this inscription: TO AN UNKNOWN GOD. So you are ignorant of the very thing you worship—and this is what I am going to proclaim to you" (Ac 17:22, 23). Paul used the information that he gathered from their culture as a launching pad and transition into the heart of his sermon.

the way he interacted with and taught people. He used the perfect teaching tactic for each situation because he was the perfect Son of God.

In his sermon to the men of Athens, Paul not only used his cultural knowledge to grab the Athenians' attention, but he also used it to strengthen their understanding of his message. In the middle of his sermon, Paul quotes a line from Greek poetry. "As some of your own poets have said, 'We are his offspring'" (Ac 17:28). Paul is using an aspect from the Athenians' culture to strengthen their understanding of his point. In doing this, Paul was meeting them on their own terms. Using that type of quotation is an excellent example of using an aspect of popular culture to further people's understanding of the gospel.

The New Testament gives plenty of examples of how using elements of culture can be beneficial in a pastor's ministry. It can help people have a better understanding of the gospel. Both Jesus and his apostle, Paul, demonstrated that this is a viable technique to use when teaching, especially given the great impact of different aspects of popular culture. It is not sensible to ignore it. Popular culture is powerful, something that is intricately woven into the lives of people from many different cultures.

What is Popular Culture?

In sketching out a definition for popular culture, so many different avenues and narratives present themselves. Trying to find a correct understanding can be overwhelming. Popular culture is so broad and deep that it allows for many different understandings of what it is and how it affects people. This is exactly what Wright and Sandlin suggest in their integrative literature review. Their review looked at the realm of Popular Culture through the eyes of educators. Their article, *Cult TV*, *Hip Hop*, *Shape-Shifters*, *and Vampire Slayers: A Review of the Literature at the Intersection of Adult Education and Popular Culture*, reports their findings. In their article, they lay out six different definitions for popular culture that range from remnants of high culture to sub-culture. The point is abundantly clear that understanding what,

¹¹This integrative literature review was done by taking all of the articles and papers that were tagged with the terms "popular culture," "public pedagogy," "television," and "media." The source for this literature review was from three peer reviewed adult education Journals (*International Journal of Lifelong Education*, 1982-2007; *Adult Education Quarterly*, 1980-2007; and *Studies in the Education of Adults*, 1990-2007), as well as papers from the Adult Education Research Conferences (AERC), 1990-2007 and the Standing Conference of University Teaching and Research on Education of Adults (SCUTREA), 1995-2007.

¹²High culture is usually described as the culture of the upper class. This means that high culture is really only accessible to relatively few people, namely the wealthy. Low culture would be the opposite of high culture. Low culture is that culture which is accessible and accepted by those in the lower class. Low culture is often used as a

where, and how popular culture operates can be difficult. Not to belabor this point any further this author suggests a very basic definition: popular culture is media, artifacts, and other elements of the culture that are enjoyed or engaged in by a high percentage of the people.

This definition of popular culture gives way for a broad array of different artifacts or little pieces of the culture such as, books, paintings, songs, television episodes, commercials and other elements that make up the culture as a whole. If the scope of this paper were to encompass every aspect of popular culture, then the scope of this paper would be seemingly endless. For the sake of brevity and scope, the main aspects of popular culture that are being examined in this paper are television and film, those things which would easily makes its way to a screen specifically for viewing purposes. This would include news media, commercials, sports, televisions shows and, of course, movies. The reason for picking these two aspects of popular culture is because of the amount of impact that they have. The majority of the people in America interact with some form of viewing screen. Having a narrow definition of popular culture is very helpful when placing some parameters on the scope of this paper. It is also beneficial to look at the different ways popular culture interacts with the people of the culture.

There are two main views regarding how popular culture interacts with the people in the culture. The first idea is that popular culture acts as a mirror of the culture in general. This view is sometimes called reflective. Wright and Sandlin describe reflective culture this way: "the media reflects 'values', assumptions and stereotypes of dominant culture." This means that popular culture is really just spreading the ideas of what most people already understand and accept as normal and good. An example of this would be if a television show includes a prevalence of divorced people, it is really only reflecting the reality that divorce is very prevalent in our culture. With this idea, it only makes sense that those who do not agree with the majority are bombarded by the values of the majority. This would mean those in the minority are constantly being taught the ideologies and values of the majority.

negative term when speaking about culture. Sub-culture is any group or small division of people that has a different culture than the majority. Any sub-culture could be described as a minority culture. It is fitting to classify high culture and low culture as their own sub-cultures, as long as the majority does not hold their views and ideas.

9

¹³Robin Redmon Wright and Jennifer A. Sandlin. "Cult TV, Hip Hop, Shape-Shifters, and Vampire Slayers: A Review of the Literature at the Intersection of Adult Education and Popular Culture." *Adult Education Quarterly* 59, no. 2 (February 2009): 119

¹⁴Wright and Sandlin, 129

The second basic idea is that popular culture is a leader and promotor of new ideas. This idea is sometimes called hegemonic.¹⁵ This idea means that popular culture is guiding and shaping the ideas of the culture as a whole. In many senses, popular culture is pushing ideologies and values that might not be acceptable to the culture as a whole. This second basic idea of popular culture as a leader can be separated even further into two different ideas with the same basic concept. These two ideas differ in their understanding of where the ideology and value of the popular culture comes from.

One of these ideas sees the ideology and values of popular culture coming from "differently positioned persons which are received and acted on simultaneously." This would make the values and ideals that are displayed by popular culture very diverse. This means that popular culture would really be a spattering of ideas and values held by relatively few people. These minority cultures, according to this idea, would make up a large quantity of what the people would see. This means that minority cultures would have the ability to influence the majority through popular culture. This idea allows a small minority to promote big changes in the ideas and values of the majority.

This other idea under popular culture as hegemonic suggests that the source for the ideology that are being promoted by popular culture comes from a small select group of individuals. Those who hold to this understanding suggest that those few individuals are a group of wealthy capitalists who put forth the ideals and values that they want the majority to have. Those who hold to this understanding usually point out that over the past fifteen years, control of the U.S. media has shrunk tremendously. People who buy into this view are the individuals who seem to find motivation behind every show and television program. For example, "the metanarrative of The Weather Channel supports the right-leaning political agenda of mainstream media." Some even claim that the comic strip Dilbert really supports

¹⁵Wright and Sandlin, 129

¹⁶Talmadge C. Guy, "Learning Who We (and They) Are: Popular Culture as Pedagogy." *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 15–23. doi:10.1002/ace.263, 16

¹⁷Robin Redmon Wright, "Narratives from Popular Culture: Critical Implications for Adult Education." *New Directions for Adult & Continuing Education* 2010, no. 126 (Summer 2010): 50

¹⁸Robin Redom Wright, "Zombies, Cyborgs, and Other Labor Organizers: An Introduction to Representations of Adult Learning Theories and HRD in Popular Culture." *New Horizons in Adult Education & Human Resource Development* 25, no. 1 (December 1, 2013), 5

¹⁹This may seem a little far out there but the evidence listed for this claim is that The Weather Channels completely ignores human agency. This is seen when The Weather Channel meteorologists sometimes use adjectives that

the capitalist agenda.²¹ Those who hold to this view suggest that the small group is putting forth the ideas and values that will continue to benefit their needs. They often suggest that television not only manipulates the majority but it acts as "a plague that destroys our critical comprehension skills."²²

Whether the values or concepts are coming from a small group or a wide range of different sources, all can agree that popular culture has an effect. The main question is, "does popular culture steer the ideas and values of the majority or does it merely reflect them?" It is this author's opinion that popular culture is really a mixture of both. Popular culture is "a site where there is both reproduction of and resistance to hegemony." Popular culture in some respects reflects the general view of the culture. However, it also puts the ideas and values of minority cultures in front of the majority. It is used as both a leader of the culture as well as a mirror that reflects it.

Popular Culture is Consumed

Part of the reason that television and film are able to function in the capacity that they do is because of how prominent a role they play in the life of the average American. The average American spends several hours a day glued to a screen. It is something that has been integrated into their lives from an early age. Consider the following statistics:

The average adult watches four to five hours of TV per day. Four hours of TV programming contains about one hundred ads. The average American child sees 200,000 violent acts by age eighteen. The average American youth spends 900 hours in school and 1,023 hours watching TV every year. ²⁴

Popular culture, in the form of TV and film, is everywhere. Most Americans entrench themselves in it. They make it a vital part of their life and immerse themselves in it daily. They plan their schedules around it. In the case of most Americans, it can easily be said, "There are only two

describe the storms systems as "angry," "cruel," or "killers." They go on to say that The Weather Channel fails to mention how urban sprawl has destroyed and polluted the environment. All of this, in their minds, makes it clear that The Weather Channel supports the right-winged agenda

11

²⁰Wright, "Narratives from Popular Culture," 53

²¹Wright, "Zombies, Cyborgs, and Other Labor Organizers," 9

²²Wright, "Narratives from Popular Culture," 50

²³Wright and Sandlin, 129

²⁴Guy, 17

places in the world—where they live and their TV set."²⁵ It could easily be said that many Americans revolve around their television. They eat in front of it. They sleep in front of it. Sometimes they live in front of it.

...simply being present in our homes when the television is on (even if our spouse, partner, or kids turned it on). For good or for ill, we are constantly being bombarded by messages that affect who we are and how we think, whether we are conscious of those messages or not.²⁶

Even when people aren't actively involved in popular culture, they are still surrounded by it most of their day. They do not have to be in front of a 50-inch glaring screen. For the average American, popular culture shapes and marks how they interact with others in their life. The reason for this is because they spend a substantial amount of time in it. When they are at work with their co-workers, what becomes the topic of the day? It is not surprising to see this comment, "when any social group interacts (i.e. student cohort, a pool of employees, etc.) the topic of conversation often revolves around the popular cultural artifacts they consume—the latest blockbuster, favorite soap, or most-watched sitcom." This makes perfect sense. People like to talk about the things they know. This provides a level of comfort because they are constantly surrounded by it. The average American is not only exposed to popular culture when they are actively consuming it but rather throughout many different parts of their day.

Why does this happen? How is it possible that people can be shaped and molded by something that they see on the screen even if it isn't always true? Talmadge Guy answers in this manner:

Despite the negative aspects of mass-mediated popular culture (pop culture that is manufactured by and disseminated through the major media conglomerates), people are ineluctably drawn to its various forms— whether in music, cinema, TV, radio, or other forms of cultural expression and practice. The reality is that pop culture is popular—in the sense that it is enjoyed by many people. ²⁸

²⁵Wright, "Narratives from Popular Culture," 50

²⁶Elizabeth J. Tisdell, "Popular Culture and Critical Media Literacy in Adult Education: Theory and Practice," *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 5–13. doi:10.1002/ace.262, 8

²⁷Wright, "Zombies, Cyborgs, and Other Labor Organizers," 10

²⁸Guy, 16

Quite simply, people just enjoy it. Television shows and movies are entertaining. They provide people with enjoyment and allow people to have shared experiences.²⁹ Popular culture exposes them to new ideas and values. People also are instructed by popular culture on how to view the world around them, as well as to direct them in answering the question, "Who am I"?

Popular Culture Instructs

Popular culture is a large platform to promote and display values and ideas. These ideas and values can be good or bad. All sorts of ideologies and values get displayed through television and film. Anton Kozlovic sees the films that are released in popular culture as a huge pool of scholarly work that should be addressed. He states that scholars should be interested in the popular films because not only are they aesthetically pleasing but also because they contribute culturally. He offers these words on how far the effect of the popular films reach. He says their effects go out "...to society, art and world civilization. Indeed, more than just media inundation, we have come to live in a media-mediated culture, where our understanding of life, reality and our own experience is filtered through video frames." ³⁰ Even our own experiences are affected. Popular culture offers many explanations and values for the different issues that people face in their lifetime. It is no surprise that Kozlovic suggests that there are even Christian ideologies and values displayed on the silver screen. "This fact alone warrants serious professional recognition, let alone the pedagogic application of commercial feature films as a legitimate, extra ecclesiastical form of Christian communication." He goes on to call movies in general a "stained glass window of contemporary electronic culture." ³¹

There is no doubt that popular culture affects the majority of Americans. Just look at the amount of money and resources that companies are willing to spend in order to have their product take a spot on the television screen. For example, Sydney Ember reports that a 30-second commercial spot for Super Bowl 50 Cost five million dollars.³² Ember breaks it down

²⁹Shared experiences, in this sense, are not that people were at the same place at the same time, or they physically shared multiple experiences together. Shared experience means they witnessed or interacted with the same cultural artifact. They consumed the same piece of media that someone else has.

³⁰Anton Karl Kozlovic, "Christian Communication in the Popular Cinema: Cross Imagery, Cruciform Poses and Pieta Stances." *Nebula* 4, no. 1 (March 2007): 143, 144

³¹Kozlovic, 144

³²Sydney Ember. "Super Bowl Pressure, for Advertisers as Well as Teams." *The New York Times*, February 4, 2016. http://www.nytimes.com/2016/02/05/business/media/super-bowl-pressure-for-advertisers-as-well-as-

like this: "an average commercial time during the game costs more than \$160,000 a second for the commercial time alone." There is no doubt that these companies are willing to spend substantial amounts to place their product on the television screen. They are willing to do this because they realize the potential that popular culture has. These companies are not in the business of wasting money. They are willing to spend that much money because they know that it is money well spent. They realize how much popular culture can affect people. They know that is what it takes to get their product out in front of a lot of people. Just think about this question; "What is the main topic of conversation the day after the Super Bowl?" It usually involves talking about the commercials that were aired the night before. Companies are willing to spend lots of money on ads because they realize that having their product on screen has an effect on people.

There is no doubt that popular culture affects people. In fact, most articles read for this paper agree that popular culture affects the way that people view the world around them, as well as their own identity. Shows like *What Not to Wear, Changing Rooms* and, *Queer Eye for the Straight* Guy³⁴ are perfect examples of programing that instructs people on what "style" and "fashion" mean. These types of shows illustrate how television shows are promoting a certain type of idea for what or how an individual should dress or decorate their home. To some extent, they are really changing the way people think about themselves. Along with that, these television shows are then offering a definition for what they think is pretty, attractive, or stylish. This type of show "gives adults a vehicle for (re)constructing their identities and for understanding how people who are different have different identities."

This isn't something that is only skin-deep. Popular culture can have a major effect on how people understand who they are. Wright and Sandlin suggest that adults are learning from television shows and the characters portrayed in them. They make the following suggestion:

teams.html.

³³Ember, "Super Bowl Pressure, for Advertisers as Well as Teams." The New York Times

³⁴What Not to Wear is about a two-person team, Stacy and Clinton, who go around and teach people about fashion. After Stacy and Clinton have instructed them, they send the individual out and buy an outfit modeled after their fashion advice. *Changing Rooms* is a show that has a team of interior designers that come and help two individual teams that are friends make over their other friend's living space. The design team instructs the induvial teams what would look best and how to make over their friend's room. *Queer Eye for the Straight Guy* is a show that has a team of five gay guys that completely make over a straight guy's image, apartment, and social life. Even though the premises of these shows are different, they do involve taking individuals, and changing something about them.

³⁵Guy, 16

Research is beginning to show that adult learners construct their adult identities, in part, by identifying with particular characters, that they relate their lived experiences to the experiences acted on the small screen, and that they are exposed to a variety of ideologies from which they choose elements to incorporate into their lives. ³⁶

This means that if someone identifies with an individual character from a television show he or she might start to form themselves into what they see on the screen. If this is something that happens the individual might even start to pick up new characteristics from the character they identify with. Their identity would then begin to reflect what they see on television. This would mean that it might be possible for the individual to reflect the changes that the character they identify with is going through on the small screen. Part of the reason for this is because some Americans look to popular culture to instruct them. They view the television show as a tool that can "make sense of their own experiences." ³⁷ Research has been done that demonstrates that people can see a character from popular culture as an instructor, one whom they learn from and can deeply affect the way they act. An example of this is seen in Robin Wright's research. Wright conducted a study on the effects that the fictional character Dr. Cathy Gale from the 1962-1964 crime drama *The Avengers* had on her viewers. These are the results of this study.

This empirical study indicated that learning from popular culture is not only meaningful, but may be recalled, reaffirmed and reapplied throughout the life-span. Women in their sixties, who had embraced informal learning from the representation of a strong, single, professional woman when they were in their twenties, explained how they recollected, analyzed, and reinforced that learning throughout their lives and careers. Like the learning experiences shared with a favorite, gifted teacher, they continued to draw inspiration and to learn from the TV character they admired long after the model was no longer available to them on television.³⁸

People also use popular culture to provide instruction on things they are uncertain of. They look to popular culture to define "what it means to be 'white,' 'black,' 'straight,' 'gay,' 'middle class,' 'poor,' 'wealthy,' 'Christian,' 'Muslim,' 'American,' and so on." The natural advantage that popular culture has is the size of stage that it offers. This in turn creates a large avenue for instructing the majority. It is only natural, because of its size and prominent use, that many Americans have their first exposure to new ideologies through popular culture. An

³⁶Wright and Sandlin, 131

³⁷Wright and Sandlin, 123

³⁸Wright, "Zombies, Cyborgs, and Other Labor Organizers," 9,10

³⁹Guy, 17,18

example of this is the news media's coverage of historical events. For example, take September 11, 2001. For many Americans the news coverage around that event highlighted and explained what it meant to be a Muslim. In their article, *Attitudes Toward Muslim Americans Post-9/11* Khan and Ecklund suggest, "It has been established that discrimination toward Muslim Americans was present before the attacks on September 11, which may relate to Islam being frequently portrayed by the media as intrinsically intolerant and violent." Their statement shows the power that popular culture has. Khan suggests that the discrimination against Muslims before 9/11 played into the information displayed on televisions across the nation. He suggests this is why the information portrayed Muslims as "intrinsically intolerant and violent." Whether or not that is true the fact remains that the media coverage concerning this historical event affected the way the people understood their Muslim neighbor.

This brings to the surface another very important point. Popular culture is not always correct. The ideas and values that are displayed are not always good. Just think of the amount of sex and violence that floods the screens, even on primetime. Even some commercials implement sex and violence to grab the viewers' attention. More often commercials become about gaining attention and arousing interest by using different elements that are not even remotely related to the product that is being showcased.

Commercials have become more about selling sex than about products; reducing female and male models to sexual adjectives often involves making sexually stimulating commercials in which a product is displayed. When viewing media with my students and family, I have begun asking, "What is this commercial selling?" Very often the answer is "sex" or "companionship."

The companies that make these commercials are willing to add sex appeal to just about anything. They know sex sells, so they add it in wherever it seems to fit. An example of this would be the *Game of War* commercials. These commercials showcase Kate Upton, a model and actress, dressed in a revealing manner that doesn't really fit the concept of the game. She is dressed so as to generate a certain sex appeal that is irrelevant to the game.

Popular culture is a vast pool of competing ideologies and viewpoints that are all striving for some airtime. The reason that they are competing for these opportunities is because popular

⁴⁰Khan, Mussarat; Ecklund. "Attitudes Toward Muslim Americans Post-9/11." *Journal of Muslim Mental Health* 7, no. 1 (2012). doi:http://dx.doi.org/10.3998/jmmh.10381607.0007.101, 2

⁴¹Guy, 19

culture affects the people that consume it. This alone makes using popular culture through television and film something that a pastor must concern himself with. Even if only to comment on popular culture and where it diverges from the values and beliefs of Scripture, a pastor would be wise to incorporate it at some level in his ministry.

Understanding the Brain

With one look at the human brain and everything that it is capable of, one cannot help but agree with David: "I praise you because I am fearfully and wonderfully made; your works are wonderful, I know that full well" (Ps 139:14). The Lord has made the human brain with such great capacities and amazing abilities that without the brain nothing in the body would function properly. Among its many functions, the brain detects, perceives, analyzes, consolidates, assimilates, projects, dictates and the list goes on and on. It does all of those things simultaneously without ever missing a step. The brain is truly remarkable. Consider how David Sousa describes it:

There are about 100 billion neurons in the adult human brain—about 16 times as many neurons as people on this planet and about the number of stars in the Milky Way. Each neuron can have up to 10,000 dendrite branches. This means that it is possible to have up to one quadrillion (that is one followed by 15 zeroes) synaptic connections in one brain. This inconceivably large number allows the brain to process the data coming continuously from the senses; to store decades of memories, faces, and places; and to come by information in a way that no other individual on this planet has ever thought of before. This is a remarkable achievement for just three pounds of soft tissue!⁴²

Understanding the brain and how it works is a tremendous benefit to anyone who is looking to teach. It allows them to plan activities that allow the brain to function at its highest efficiency.

The first step in understanding the way the brain works is to have a basic understanding of the brain's layout. The brain is made of two hemispheres that are connected by the *corpus callosum*. The outer layer of the brain is called the cerebral cortex. The cortex is about one-eighth of an inch thick and is about the same size as a sheet of newspaper with an area of two and a half square feet when stretched out flat.⁴³ Inside the skull the cortex is folded. The cortex has some deep folds, as well as some smaller wrinkles, which ultimately contributes to the way the brain looks. Within the deep folds and wrinkles of the cortex there are different sections that

⁴²Regina G Richards, The Source for Learning & Memory Strategies, 2003, 4

⁴³Richards, 6

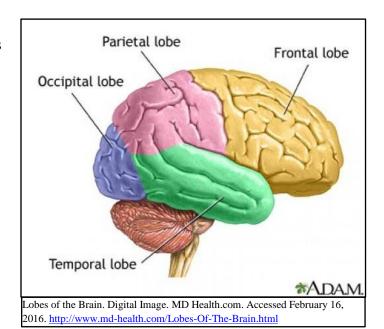
are called lobes. These lobes are very complex and are broken into different sub-sections, which all play their own part in how the brain takes in and handles information. These lobes, in general, have their own specific function that they are in charge of carrying out.⁴⁴

One of the four major sections in the brain is the occipital lobes. These lobes are located at the very back part of the brain. The main function of these lobes is handling all the information that is taken in by the eyes, visual stimuli. The eyes take in all sorts of information and are responsible for 80% of all sensory input. This means that these lobes are responsible for taking in all of that information and making sense of it. The occipital lobes do this scanning the brain and comparing all the information that is being received with previous experiences stored in long-term memory. Visual stimuli do not become meaningful until the entering perceptions are matched with previously stored cognitive associations. The occipital lobe does all of this rapidly in most people.

Right in front of the occipital lobes are the temporal lobes. These lobes are located right above the ears. Their main function is to handle all of the information taken in by the ears,

auditory stimuli. These lobes are responsible for taking in all the words that are spoken and making sense of them. It is not only responsible for taking in each individual word but also putting the words together in the correct syntax when we speak.⁴⁷ This area of the brain, needlessly to say, plays a major part in our understanding and use of language.

Above the temporal lobes are the parietal lobes. This part of the



⁴⁴Richards, 6

⁴⁵Mary B. Schreiner, Cynthia D. Rothenberger, and A. Janae Sholtz. "Using Brain Research to Drive College Teaching: Innovations in Universal Course Design." *Journal on Excellence in College Teaching* 24, no. 3 (September 2013): 31

⁴⁶Richards, 7

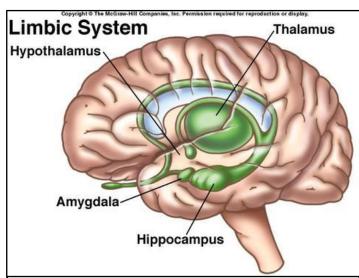
⁴⁷Richards, 7

brain is responsible for understanding information about the space our body is in. These lobes are located on the top part of the brain and are similar in shape to plates." This part of the brain is responsible for taking in information from all different sensory receptors from all over the body. It recognizes and processes the "information from our environment regarding touch, temperature, pain and position of our limbs. It is this section of the brain that allows the body to move and operate in the space it is in.

Finally, the lobes that rest at the very front of the brain are the frontal lobes. "It is in this region that important executive functions such as planning occur." These lobes, which occupy 28% of the cortex, are the part of the brain that allows someone to be consciously aware of their thoughts. This section of the brain is sometimes called the executive control center, because it is the part of the brain responsible for cognition. All of these lobes (occipital, temporal, parietal, and frontal) play major roles in the way the brain analyzes and takes in information from the senses. These lobes work together with some other very important systems in the brain.

One of the systems in the brain that plays a major part in the learning process is the limbic system. This system is sandwiched between the brain stem and the cerebral cortex. This system is in charge of regulating the interplay between emotion and reason. The limbic system plays an important role in long-term memory and is made of many different parts, such as the thalamus, hypothalamus, hippocampus, and amygdala.⁵¹

The thalamus is the part of the brain that sorts out all of the different



Limbic System. Digital Image. McGraw-Hill online Learning Center Test. Accessed February 16, 2016. http://www.mhhe.com/cgi-

bin/netquiz_get.pl?qfooter=/usr/web/home/mhhe/biosci/genbio/enger/student/olc/art_quizzes/0665fq.htm&afooter=/usr/web/home/mhhe/biosci/genbio/enger/student/olc/art_quizzes/0665fa.htm&test=/usr/web/home/mhhe/biosci/genbio/enger/student/olc/art_quizzes/0665q.txt&answers=/usr/web/home/mhhe/biosci/genbio/enger/student/olc/art_quizzes/0665a.txt

⁴⁸Richards, 7

⁴⁹Schreiner, Rothenberger, and Sholtz, 31

⁵⁰Richards, 7

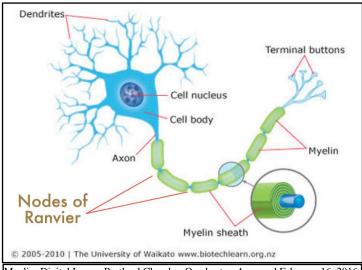
⁵¹Richards, 10

information that is taken in by the sensory organs. It acts as a switchboard for all the information that comes in. It decides which part of the brain to send the information to in order that everything can be deciphered and understood. Right below the thalamus is the hypothalamus which is responsible for regulating the body's normal functions, such as temperature, heart rate, eating, and drinking. This small organ is about the size of a thumbnail and plays a major part in the function of the body.

The hippocampus is the part of the brain that "promotes comprehension and association with prior knowledge, acting as a staging area for building long-term memories and knowledge bases." Regina Richards describes it like this: "It plays a major role in consolidating learning and in converting information from working memory via electrical signals to the long-term storage regions... It constantly checks information relayed to working memory and compares it to stored experiences. This process is essential for the creation of meaning." The hippocampus is most certainly the area of the brain that teachers look to engage with their teaching. Engaging this part of the brain will be addressed later on in the section titled "Strategies For Memory Retention".

The last part of the brain that we will look at in this paper is the amygdala. This part plays

a very large role in the way that emotions are handled. The amygdala identifies danger and promotes the appropriate response in the body. The amygdala is the part of the brain that controls the "fight or flight" reflex. If this part of brain becomes overwhelmed with too much stress then no new memories can be processed because there is too much neural activity going on. ⁵⁴



Myelin. Digital Image. Portland Chamber Ocrchestra. Accessed February 16, 2016.

⁵²Schreiner, Rothenberger, and Sholtz, 13

⁵³Richards, 11

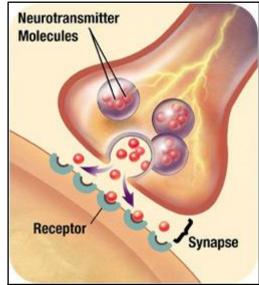
⁵⁴Judy Willis. Research-Based Strategies to Ignite Student Learning: Insight from a Neurologist and Classroom Teacher. Alexandria, VA: Association for Supervision and Curriculum development (ASCD), 2006, 25

Each part of the brain plays an important role in processing information from the world around us and helps the body react in an appropriate manner. These different sections of the brain are capable of doing all of this because of the type of cells that are in the brain.

The type of cells that make up the brain are neurons. Neurons are specially designed cells created for the specific purpose of passing on information. Neurons exist in a variety of different shapes and sizes. On average, they are about 1/110th of the size of a period in this paper. Neurons are also the cells that make up the nervous system. They are responsible for taking in information from different sensory organs. Neurons take the information to the brain so that the brain can analyze and respond. Each neuron is made of basically three parts: cell body, dendrites and an axon. The dendrites are little tree-like structures that reach out into branch-like structures and receive the information that is passed on from other neurons. This information is transmitted through the neurons by an electrical impulse. Once the dendrites have received the information from another cell, they pass it on to the neuron's cell body. The cell body then processes the information and sends it on its way via the axon, which is a long tail-like structure that has multiple branches at its end. The axon then sends the information on to another neuron's dendrites, where the process starts all over again. How fast this process happens depends on

neuron's myelin sheath, a white fatty substance that surrounds the axon. This sheath increases the speed at which the electrical impulse can travel (therefore increasing the speed at which the information can travel).

Once the information gets to the tip of the axon it has to jump a gap between the two neurons. This gap is the junction where axons and dendrites communicate, which is called a synapse. The synapse is where the electric impulses cause the axon to release chemicals, which are called neurotransmitters. These neurotransmitters travel across a very small gap, which is known as the synapse gap. Once these chemicals



The Synapse. Digital image. The Free Learning Channel. Accessed February 16,2016.

http://www.freelearningchannel.com/l/Content/Materials/ Sciences/Biology/textbooks/CK12_Biology/html/22/1.ht

21

⁵⁵Richards, 2

come in contact with receptors on the branches of the dendrites it triggers an electrical impulse that then carries the information on to the next neuron's cell body. This transmission of information is continued from one neuron to another until it reaches its destination.

A neuron by itself cannot carry out any functions, but when it is in a system of multiple neurons, it has the ability to carry out all the major functions that your body needs. These cells make up networks, which store information in the brain. The structure and elaborate networks of synapses make it possible for us to learn and recall things from the past. When learning takes place in the brain, it changes the structure of these neural networks. Schreiner, Rothenberger and Sholtz describe it this way: "While individuals are born with a similar number of neurons, over our lifespans the number, density, and correctness of the synapses varies and can be affected by everything from our diet to our access to well-designed instructional experiences." 56

The more neurons fire and work together in the same pattern, the stronger the signal and the more interconnected the neurons become. The more times that neurons fire together the more likely it will be that these neurons will wire together, allowing them to pass on the information more efficiently. The reason this happens is because the "dendrites increase in size and number in response to learned skills, experience and information. New dendrites grow as branches from frequently activated neurons." This new growth strengthens the connections between neurons. This creates easier access to retrieve the information that is being desired by the brain. When the brain is learning something the goal is to have it create and strengthen a network of neurons. This strengthening of different neuronal networks will then cause certain information to become, in a way, etched into the brain and will become more easily accessible.

The whole process of creating new pathways is a process that the brain does naturally as it continues to interact with more and more information. The changes the brain goes through as it is learning is to ultimately make functioning more efficient.

This thickening of gray matter (the branching dendrites of the neurons and the synaptic connections they form) is accompanied by thickening in the brain's white matter (fatty myelin sheaths that insulate the axons carrying information away from the neuron and making the nervesignal transmissions faster and more efficient). As the brain becomes more efficient, the less-used circuits are pruned away, but the most frequently used connections become thicker, with more myelin coating making them more efficient. ⁵⁸

⁵⁶Schreiner, Rothenberger, and Sholtz, 32

⁵⁷Willis, Research-Based Strategies to Ignite Student Learning, 1

⁵⁸Willis, Research-Based Strategies to Ignite Student Learning, 3

This ability that the brain has to change the neuronal networks is known as plasticity. The brain experiences this whenever it learns and stores information in long-term memory. The brain is constantly modifying itself by learning new information. Along with the idea of plasticity comes the idea of pruning. Pruning is the process by which the brain "continually clears unused knowledge from long-term memory storage." This is a very important process because if the brain doesn't undergo pruning it would quickly be overloaded with information. "It is the use it or lose it phenomenon." Pruning takes place by eliminating certain unused neuronal networks. "Without streamlining of needed information and pruning of unneeded knowledge, the essentially unlimited capacity of long-term memory would quickly amass too much information and prevent memory from operating efficiently." Judy Willis describes it on the cellular level like this.

Cells that are inactive don't send messages to the circulatory system to send blood. (The brain cells receive circulation not from blood, as seen in the rest of the body, but rather from a colorless, filtered form of blood called cerebral spinal fluid.) This reduced blood flow means that calcium ions accumulate around the cell and are not washed away. This buildup of calcium ions triggers the secretion of the enzyme calpain, which causes cells to self-destruct. 62

The brain makes those types of decisions. It chooses what information to hold on to and what information to get rid of. This process is determined by how often each piece of information is built upon and recalled.

The process of pruning can also be sparked by elements outside the brain. If the brain is exposed to intense long-lasting stress the amygdala will actually shut down and will stop learning from taking place. "Stress that is enormous or prolonged is disruptive to cognition and may lead to the physical destruction of neurons in the hippocampus and thus interfere with learning and memory storage." The brain naturally selects when to prune the information that it does not use. It also naturally strengthens and reinforces the information that is uses over and

⁵⁹ Ted R. Bonnema, *Enhancing Student Learning with Brain-Based Research*, 2009. http://eric.ed.gov/?id=ED510039, 17

⁶⁰Willis, Research-Based Strategies to Ignite Student Learning, 2

⁶¹Bonnema, 17, 18

⁶²Willis, Research-Based Strategies to Ignite Student Learning, 2, 3

⁶³Richards, 11

over again. The brain holds on to the information that it sees as valuable and relevant to the information that is coming in.

When the brain thinks something is important it moves it into long-term storage. However, this information has to go through a process in order to get into long-term storage. The next section of this paper will look at the process that information goes through as it travels from our senses into long-term storage.

How the Brain Processes Information

In the storage of the brain's information everything starts off with sensory input. This makes good sense because before information can be processed by the brain, it must first be received. The brain is constantly taking in all sorts of information. It receives information from all of the sensory organs: sight, sound, touch, movement, taste, and smell. All the information that comes in from these different sensory organs has to be processed and handled in order to make sense of it. "This information is stored for only a fraction of a second before the subconscious decision is made concerning how to process the information; in other words, sensations are only stored momentarily for perception." 64

However, due to the extreme amount of information that the brain is constantly taking in there is a sifting that takes place during the sensory input stage. "This process can also be compared to the function of a sieve or filter. Since 99 percent of all sensory information is discarded almost immediately upon entering the brain, what remains is generally (and hopefully) the most valuable and important." The brain has to choose what information it is going to process.

New information is taken in through the sensory organs and those organs send the information through the nerves, via neurons, up to the brain. As the information comes into the brain it is processed through the thalamus, which sends it to the appropriate location in the brain to be deciphered and compared with previous experiences. Once each lobe has analyzed and made sense of the new information, the brain then chooses how to respond to this information.

Attention dictates whether select information moves from sensation to perception, which Wolf (2001) describes as largely an automatic, subconscious process. The automaticity of

_

⁶⁴Bonnema, 5

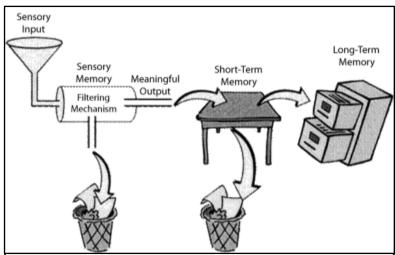
⁶⁵Richards, 18

selective attention is generally a product of the varying novelty, intensity, or movement of stimuli as received by the senses. However, this automaticity of stimuli processing can be countered by the conscious attentive effort of the learner, coupled with the introduction of the factors of meaning and emotion. ⁶⁶

The brain decides what information needs to be addressed and how. For example, if someone notices that something is suddenly falling and it might possibly hit them the brain will automatically choose to process that information and send out a response to the rest of the body. The brain tells the body to act accordingly, namely, to move out of the way or try and defend itself. In a serious situation your brain makes the choice whether it is going to stay and fight or if it is going to run. In those situations, the process happens so fast there is not even a moment for the person to stop and think about which option is best.

In non-serious situations, the brain looks to take the new information and appropriate it to past experiences. If there are no experiences that can help decipher the new information, the information is discarded as meaningless, unless conscious efforts are made. "The process of perception is the meaning we attach to information as it is received through the senses... If the new information is something that activates a previously stored neural net, then there is a match." This information then moves into a different section of the memory process. It moves into the process known as short-term or working memory.

Working memory is where the brain's storage process requires interaction with the new information. Interaction in working memory, however, does not mean that information is going to be stored. The way in which the information is handled in this section of the process dictates whether this new information gets encoded



Information Processing Theory. Digital Image. Learning Disabilities Memory and Attention. Accessed February 16, 2016.

https://learningdisabilitiesmemoryandattention.wikispaces.com/Information+Processing+ Theory

⁶⁶Bonnema, 6

⁶⁷Richards, 19

and passed on into long-term memory. Working memory is an ongoing process, happening continuously, especially in the learning process. Since new information is coming in all the time, the working memory is constantly focusing on selected items. It is during this process that the brain is looking to pass information on into long-term memory. "Working memory, or short-term memory, involves the ability to hold and manipulate information for the use in the immediate future. Information is held in working memory for only about 20 minutes."68 If the information isn't dealt with appropriately the information is discarded. Working memory is often described as a table. If the information coming in isn't interacted with in a meaningful way it gets moved off the table. The brain will, in a sense, throw the information away. While long-term memory seems to have an almost limitless capacity, the short-term memory has a limited capacity to focus on and hold certain pieces of information. "Without the use of any active strategies, researchers have estimated that information stored in working memory is limited in capacity to approximately five to nine items." The only way to move information out of working memory to long-term memory is to encode the information more thoroughly and deeply into the brain. "This is accomplished by associating it meaningfully with knowledge that already exists in memory.",70

The more the brain can interact with a certain piece of information, the greater chance that information will have to move on past working memory. This is because every time this certain information is interacted with a specific set of neurons for this specific information fire over and over again. Each time that these specific neurons fire the more connected they become. This thickens the neural network and etches the information into the brain. As the brain is looking to attach this certain piece of information with previous experiences. The more these neurons fire together the more likely they will be connected together in the same neuronal network.

After repeated practice, working memories are set down as permanent neuronal circuits of axons and dendrites ready to be activated when the information is needed. When a memory has been recalled often, its neuronal circuits are highly developed because of their repeated activation. A phrase that describes this construction of connections based on repeated association of one piece of information with another is "Cells that fire together, wire together." When neurons fire in sync with one another, they are more

⁶⁸Willis, Research-Based Strategies to Ignite Student Learning, 6

⁶⁹Bonnema, 10

⁷⁰Richards, 20

likely to form new connections. As the connections grow stronger by repeated stimulation, a given neuron becomes more likely to trigger another connected neuron.⁷¹

This process increases the strength and connectivity of the neuronal networks associated with this information. This process moves information out of working memory into long-term memory where the information will be stored for future use.

It has been debated that the brain's long-term memory capacity is virtually endless. Richards makes this point in her book. "Long-term memory is so enormously vast that there has been debate over whether information ever gets lost from long-term memory or whether, when we can't remember something, it is simply lost in long-term memory."⁷² This is very possible because "no specific location in the brain stores information. Rather, components are stored in various locations throughout the brain and then circuits of networks of neurons work together to join or coordinate the components of the information."73 Once information has moved out of working memory and has been determined to be useful, it gets moved into the filing cabinet of the long-term storage. This process takes place in the hippocampus. "The hippocampus plays an important role in long-term memory because storage occurs only after the hippocampus encodes the information and sends it to one or more long-term storage areas. This is the process of consolidation and it is a process that takes time and is disturbed throughout the cortex."⁷⁴ This is the process that every teacher works toward. They work to have the information that they are teaching to be consolidated into long term-term memory storage. However, "consolidation takes time. Research is not specific enough to tell us how much time is needed for consolidation; but nevertheless this time factor would vary considerably among students and from different types of information."⁷⁵ The more information is revisited the greater the chance that it will be moved into long-term memory.

Once the hippocampus has consolidated the information and stored it in the different areas of the brain, the goal then becomes to retrieve that information or memory. Memory retrieval is a process that happens during learning. Really, the brain does all of these things simultaneously. It is constantly working to process information and to consolidate it into long-

⁷¹Willis, Research-Based Strategies to Ignite Student Learning, 7

⁷²Richards, 26

⁷³Richards, 3

⁷⁴Richards, 25

⁷⁵Richards, 26

term memory. Since memories are stored all over the brain in different locations, the brain has to send out an activation to those various locations in order to recall that memory. This is why, as you think about memories from the past, the more you think about the experience the more information you remember. Anything can activate the retrieval of a memory. It could be talking about the memory. It could be recognizing the location of the memory. It could be the sounds that were heard during the memory. Any of those could trigger the brain to pull up all the information it has on a specific memory. This is how the brain learns. It takes new information and attaches it to past experiences or memories. The more the brain retrieves or recalls memories the more readily it can access that memory.

All of this is important for teachers because the more they understand the way the brain stores information the more they will be able to cater to its needs. Knowing how the brain processes information will also help the teacher in using teaching strategies that aid the brain. Teachers want to increase the brain's natural process of taking in new information and consolidating it, or what we like call "learning."

Strategies for Memory Retention

Interacting with new information plays a major role in the process of assimilating that new information. The end goal is to create and strengthen the neural networks. This is done by making sure that the brain interacts with this information multiple times. If the brain interacts with the information enough, it will encode the information and move it into long-term storage. Information goes through a set process and because there is a set process, there are strategies for increasing the brain's retention of information.

The first strategy is to focus on the information and recall it often. This strategy should be implemented while the information is in the working memory stage. This strategy seems to be a no-brainer. "The more times one repeats an action or recalls the information the more dendrites sprout to connect new memories to old, and the more efficient the brain becomes in its ability to retrieve that memory or repeat that action." Repeated retrieval is very helpful but it is also important that the information be reviewed. This means not only should a student recall the basic memory or fact but they should also spend some time thinking about everything that memory entails. This review will allow added exposure and will strengthen the entire neural network.

76

⁷⁶Willis, Research-Based Strategies to Ignite Student Learning, 8

This is why the famous saying *repetitio est mater studiorum*⁷⁷ has stood the test of time. The more the brain interacts with information the more automatic its recall and response is to that information. This is something that can be seen with older members who have lost a significant amount of cognition. God's Word is so powerful that over their lifetime, they have repeated the same song or passage over and over again, and that has created such a thick and dense neural network that they are able to recall the information even though other parts of the brain may not function as well. Repeating information over and over is very helpful and it goes hand in hand with the next strategy, which is keeping the students engaged.

Information only has a short period of time that it remains in working memory. This means that it is crucial to keep the information in front of the students. The most natural way to do this is to create an interest in the information you want to teach. "The increased interest linked with an emotional response also helps to keep active attention on new information in working memory, thereby lengthening the window of opportunity for new knowledge to be permanently encoded." Getting students motivated is sometimes difficult. This is why it might be helpful to look for your students' internal motivations, the things that they naturally like to think about and learn, rather than relying solely on externals. Students have to be engaged, otherwise the new information will not be perceived, encoded or patterned. "Novelty, humor and surprise in lessons expedite students' attentive focus, and the use of these strategies result in more successful encoding of data into the memory circuits."

Novelty and humor are two easy ways teachers can keep the attention of their students. It isn't that these two aspects of teaching increase the neural network's activity by themselves, but rather it keeps their attention focused on the lesson and, ultimately, the information that the teacher wants encoded in the students' brains. Humor can also be used to create a mental rest, which is also very important and will be discussed later on.

Along with novelty and humor, surprise can be a great tactic. It puts the students into a position where they are intrigued by what is going on. This in turn can prolong their attention. Surprise can be used in a variety of ways. Even changing the seating arrangement can add an

⁷⁷Repetition is the mother of studies.

⁷⁸Bonnema, 20

⁷⁹Schreiner, Rothenberger, and Sholtz, 18

⁸⁰Willis, Research-Based Strategies to Ignite Student Learning, 20

element of surprise. Keeping the students engaged is very important. It allows them to have more time interacting with the information, which could potentially increase their retention. Another strategy that helps increase learning is attaching meaning to new information.

Just having students learn something without attaching meaning makes the retrieval of that information very difficult. Teachers must attach meaning to the information that their students are learning.

When students investigate topics creatively with thematic, interdisciplinary approaches, they learn patterns and skills, not just facts. When subjects are interrelated, they are more easily recalled and there is less need for memorization, because higher levels of thinking have been stimulated and there are increased numbers of pathways by which information can travel in and out of long term memory banks.⁸¹

If meaning is not attached to information, it makes retrieval of that information very difficult. The reason for this is because the brain has nothing to attach that information to. This is what happens sometimes with rote memory. Assigning memory passages without attaching meaning is counterintuitive. The meaning attached to the passage should make remembering that passage a whole lot easier. Even if a student is able to memorize a passage without meaning attached to it, that student will have more trouble retrieving that passage in the future. Why? Because nothing else is attached to that passage in long-term memory storage. It will get stored in a remote location in the brain where there are less nerve pathways leading to it. ⁸² This in turn will make retrieval more difficult. The more connection that a piece of information has in long-term storage, the easier it is to retrieve. Attaching meaning allows the new information to have multiple cues or connections, which will allow the information to be accessed in a variety of ways.

A teacher can increase the number of cues a piece of information has by teaching the new information in a way that interacts with a variety of senses. Involving a variety of senses greatly increases the chance that the new information will be remembered. When giving students the opportunity to interact with a variety of senses, a teacher is meeting a basic strategy for influencing the success of knowledge transfer into long-term memory. This will maximize

⁸¹Willis, Research-Based Strategies to Ignite Student Learning, 22

⁸²Willis, Research-Based Strategies to Ignite Student Learning, 6

synaptic growth.⁸³ This is the case because the different senses trigger the different sections of the brain that are involved.

When students build their working memories through a variety of activities, they are stimulating multiple sensory intake centers in their brains. Their brains develop multiple pathways leading to the same memory storage destination. By stimulating several senses with the information, more brain connections are available when students need to recall that memory later on. This means that the memory can be received by more than one type of cue. 84

Each sense is processed in the different lobes of the brain. When a student engages those different sections of the brain while learning, they create multiple cues in those different sections of the brain. Doing this strengthens the neural networks all over the brain. This allows the different sections of the brain to strengthen their own pathways for the same piece of information. This is why hands-on learning is so effective. It activates a variety of senses and completely immerses the student in the process of learning. Engaging multiple senses creates neural networks that span out over the different sections of the brain. All of this makes the information easily accessible. Along with multiple senses the emotions play a major role in how information gets stored.

Emotions add another level to the retention of information. Students who are able to attach emotions to information will more than likely be able to recall that information. Emotions can be a very helpful tool for teachers to tap into.

Emotion often provides a stronger backing for a given learning experience, and acts as an intensifier in episodic memory. The addition of an emotional component to information helps to add meaning and excitement. This not only aids retention by promoting multiple pathway encoding, but recall of knowledge is simultaneously enhanced when information is emotionally-tinted.⁸⁵

By attaching happy emotions to information, the brain automatically associates that piece of information with those types of emotions. For example, think about how amazing and wonderful baptism is. A pastor could teach a lesson on baptism by just going over the passages that talk about baptism and the new life it gives. This would be a good lesson and I am sure the students would learn. A teacher could also do the same lesson with the passages but add to some things

⁸³Bonnema, 18

 $^{^{84}\}mbox{Willis}, Research-Based Strategies to Ignite Student Learning, 10$

⁸⁵Bonnema, 19

that he knows the students respond well to. 86 All this would be to underscore just how great and awesome baptism truly is.

However, emotions can be a double-edged sword. They can help memory retention but they can also hinder it. Too much emotion can hinder the leaning process. The same is true for negative emotions. "The learner can perceive presented information as threatening if the emotional component is too strong, thus decreasing retention and recall." This can especially be true for episodic memories. In episodic memories, the brain takes in all of the information from an episode or a situation and automatically places the information into long-term storage. This usually happens in very intense situations. If the events have a negative emotion attached, then the information itself will have a negative association. This is why emotions can be good or bad. Willis describes it like this, "Because the dramatic event powers its way through the neural pathways of the emotionally pre-activated limbic system into memory storage, the associated hitch-hiking academic information gets pulled along with it."88 An example of an episodic memory would be September 11th, 2001. Almost every American who was old enough to know what was going on remembers where they were when they heard about the Twin Towers. The brain automatically took in all the information and stored it in long-term memory. This is the same for anyone who has suffered a traumatic event. It is very difficult to teach someone right after something traumatic happens. The brain does not function properly. An example of this would be teaching a student that has just received the news that one of their loved ones has passed away. The teacher would not get very far. Too much emotion can stop learning from taking place. "When the limbic system, particularly the amygdala, is hyper stimulated by high stress, it becomes flooded by so much neural metabolic activity that new memories cannot pass through it to memory storage and reasoning parts of the brain."89 Emotion is a very important tool that teachers can use. However, a teacher will be wise to use it carefully.

Taking little breaks between new pieces of information is crucial. These miniature breaks allow the brain to have more time to process the information being consumed. This is extremely beneficial. Taking a slower pace and having longer wait times in your class allows your students'

⁸⁶This could be anything. The pastor could bring treats, or do activities throughout the lesson that have had good responses in the past. He could even have happy sounding music playing as the students are coming in before class.

⁸⁷Bonnema, 19

⁸⁸Willis, Research-Based Strategies to Ignite Student Learning, 13

⁸⁹Willis, Research-Based Strategies to Ignite Student Learning, 25

limbic system more time to work. These miniature mental breaks give the students that extra time to process new information. If too much information is coming in all at the same time, the limbic systems can actually block new information input. This means the brain's efficiency drops rapidly when overworked. ⁹⁰ These breaks also increase the quality of learning. ⁹¹ Having wait time is critical for students to process information. However, it isn't just miniature breaks that are really important, but actual breaks from learning. Stepping away from learning is sometimes a necessity. It allows the brain some down time to work on moving memories from short- to long-term memory. One of the ways that the brain achieves some much needed rest is by sleeping.

Getting good sleep is very important. The brain uses that time to switch gears and focus on transferring memories into long-term storage and building up the neural networks.

Memory storage in the brain is most efficient during the longs periods of uninterrupted deep sleep rather than during the "dream sleep" associated with rapid eye movement (REM sleep). This period of deep sleep is the critical time when the brain transforms recent memories into long-term memories by building and extending the dendritic branches. The hard-wiring of information learned during the day results in stored permanent memories. ⁹²

If the brain does not have enough sleep, efficacy will plummet. This strategy may seem to be outside of a teacher's control, but understanding this fact helps a teacher plan. For example, if a teacher knows that students have been sleep deprived, he should have realistic expectations for the involvement and retention of his students.

All of the strategies above, (repetition, engagement, attaching meaning, teaching to multiple senses, using emotions, and taking breaks) are ways teachers can cater to the brain. Students might possibly learn and retain information without these strategies. However, a teacher who overlooks such strategies is really overlooking the best interest of their students.

Popular Culture and the Brain.

After looking at the effects of popular culture and the way the brain works and stores information, the question is: "Is there an avenue where these two meet?" Is there a place where

⁹⁰Willis, Research-Based Strategies to Ignite Student Learning, 36

⁹¹Schreiner, Rothenberger, and Sholtz, 32

⁹²Willis, Research-Based Strategies to Ignite Student Learning, 36

the use of popular culture could increase the retention of important biblical truths? Is popular culture a tool that complements the way the brain operates and functions? Does it have the ability to aid the brain in its process and consolidation of scriptural truths? To answer these questions let us briefly review what has already been discussed.

People spend a massive amount of time with popular culture. They consume it either consciously or subconsciously. Either way the majority of people are familiar with it and are comfortable interacting with it. This would lead us to think that popular culture could cultivate an environment where the students would feel comfortable interacting with information. This familiarity and comfort might provide an opportunity to attach important biblical truths to something that the average person interacts with every day. This does not mean that the scriptural truth affirms the ideas and values of popular culture. However, using something that a student interacts with every day might create an opportunity for them to interact with the biblical truth in a new and meaningful way.

One way a pastor could do this would be to use events from the surrounding culture as a backdrop for topics of study. Think how interested people were in the topics of homosexuality, marriage, and love when the U.S. Supreme Court legalized same-sex marriage in Obergefell v. Hodges. People were interacting with those topics day in and day out for months. Why not use God's Word to guide them through the sea of opinions that are out there? This would hopefully allow the students to revisit those biblical truths when they interact with that topic over and over again.

A pastor could also take an aspect of popular culture and use it to illustrate biblical truth. (This does not have to take up a major portion of the Bible class, but can just be a simple illustration.) An example of this could be using the television show "The Walking Dead" when you are speaking about unbelievers and how they follow their cravings and desires. This could easily fit into a bible lesson on Ephesians 2.

As for you, you were dead in your transgressions and sins, ² in which you used to live when you followed the ways of this world and of the ruler of the kingdom of the air, the spirit who is now at work in those who are disobedient. ³ All of us also lived among them at one time, gratifying the cravings of our flesh ^m and following its desires and thoughts. Like the rest, we were by nature deserving of wrath (Eph 2:1-3).

⁹³This is a show on AMC. The show follows a group of survivors after a Zombie apocalypse.

This might be an interesting way for the students to look at the biblical truth in a new and interesting manner.

The implications for this would be that the students are interacting with information that they are familiar with and information that has an emotional affect. Students interact with that information while attaching it to biblical truths. Take this one step further and think about the conversation that the average person has at work or other places. Often times it revolves around some element of the popular culture. If a pastor were able to attach a Scriptural truth to some aspect of popular culture, it might create an avenue for the average member (if they are comfortable) to share the biblical truth. In a sense, these types of instruction could provide an added element to outreach.⁹⁴ This would be an attempt to carry out what those in Scripture have suggested before.⁹⁵

Another element that popular culture brings to the educational table is that it is entertaining. In general, people enjoy it. This can create an interest in the lesson and give the biblical truth more time in the minds of students. Every additional minute is important because the brain at some point has to decide whether the information is useful or not. Adding some element of popular culture can surprise and intrigue some students. It might get them to focus on the information, in order to see how it relates to the scriptural truth. The same thing happens when someone is listening to a speech in order to decipher where they are coming from and whether or not their points are legitimate. Even a small amount of change can cause heightened attention.

The format itself for popular culture allows for an increased use of the senses. Television and film naturally provide an experience that allows people to engage with their eyes and ears. This is a huge advantage for popular culture. It creates a story that allows people to be more actively involved in the learning process. Also, adding the extra stimuli from the eyes and the ears is a big advantage for the brain. By engaging multiple sections of the brain, the students will strengthen the neural networks that are present. This type of format easily allows for the expression of emotions. A pastor could potentially show a short clip during his Bible class that

⁹⁴This is in no way to say that popular culture should be considered a prime evangelism tool, however it might provide a platform for a member to talk about biblical truth in a new and different way.

⁹⁵ Deuteronomy 6:7-9; Philippians 4:8,9; Psalm 1:2; Proverb 7:3

could convey specific type of emotion. This would lend itself well to storing information in the brain.

Besides all this, think about the message that popular culture sends to those who consume it. In many (if not most) aspects, it speaks out in opposition to what the Bible clearly says. This makes it even more appropriate for a pastor to at least provide some commentary on the events and ideas floating around in the popular culture. It is unreasonable to ask a pastor to provide a commentary on everything that exists, but when popular culture provides an opportunity to speak the truth he should. With that being said, it doesn't take long to see that there are some very deep underlying thoughts and agendas that are being displayed in popular culture that should be dealt with in a loving manner.

With all that being said, it is only right to recognize that using popular culture can create some problems. If the people that a pastor is teaching don't engage in popular culture through television and film, it greatly reduces the amount of information that can be used. The pastor may make references, but the student will not understand them. The use of popular culture can, if used incorrectly, be more of a distraction than an aid to the learning process. Students might spend more time talking about the reference to popular culture rather than the scriptural truth being emphasized. Wright notes that discussions should be guided to ensure that the students are receiving the emphasis desired. Finally, people could be outright shocked at that inclusion of some popular culture references in Bible class, partly because many pieces of the popular culture disagree with Scripture.

Conclusion

Popular culture has a tremendous effect on people. It shapes the way they see themselves and the world around them. Understanding those effects, helps a pastor better identify how he can serve and communicate the gospel message. Understanding the function of the brain also helps and aids this same goal. The pastor's main focus is to communicate the Word of God, because "it is the power of God that brings salvation to everyone who believes" (Ro 1:16). Knowing this, a pastor will do his very best to make sure that nothing gets in the way of that Word. He will strive to create an atmosphere where the Word of God is understood and retained by his members. This is a challenge that every pastor faces.

36

⁹⁶Wright, "Zombies, Cyborgs, and Other Labor Organizers," 10

How do you accomplish this great task? Look to Jesus, the perfect instructor. In his ministry, we see instance after instance where our Savior used elements from the culture to instruct the lost sheep of his day. Jesus made it his practice to tell stories and parables that engaged his hearers mentally and emotionally. Jesus knew how to implant information in the mind of his hearers better than anyone. A pastor looks to do the same.

Should a pastor regularly use and reference popular culture in their Bible classes because it promotes retention and retrieval of information in the brain? One thing is for sure: popular culture is not some silver bullet. Yes, God's people will interact with it a lot, but it still fails in comparison to the mighty Word of God. Educators suggest that popular culture should be used in the classroom, and that makes sense. Popular culture does provide an avenue that seems to fit well with brain-based strategies, but at the end of the day, the thing that has the greatest effect is God working through the Word. Yes, the pastor makes a difference. Each pastor knows his flock. Pastors know their members' struggles and triumphs. More than anyone, pastors know how to touch their members' hearts and inspire them with God's Word. So should a pastor use popular culture in his Bible class? The answer to that question can only be decided by each individual pastor taking into consideration the wants and needs of his flock. May God encourage those men carrying out their ministry in a way that serves their flock and gives him honor and glory.

Bibliography

- Alferink, Larry A. and Farmer-Dougan, Valeri. "Brain-(Not) Based Education: Dangers of Misunderstanding and Misapplication of Neuroscience Research." *Exceptionality* 18, no. 1 (January 1, 2010): 42–52.
- Bauman, Whitney. Marchal, Joseph A., McLain, Karline.,O'Connell, Maureen and Patterson, Sara M., "Teaching the Millennial Generation in the Religious and Theological Studies Classroom." *Teaching Theology & Religion* 17, no. 4 (October 2014): 301–22. doi:10.1111/teth.12237.
- Block, Cathy Collins, and Parris, Sheri R. Comprehension Instruction: Research-Based Best Practices. Solving Problems in the Teaching of Literacy. Second Edition. Guilford Publications, 2008.
- Bonnema, Ted R. *Enhancing Student Learning with Brain-Based Research*, 2009. http://eric.ed.gov/?id=ED510039.
- Bonner, Fred A. II, Marbley, Aretha F. and Howard-Hamilton, Mary F. *Diverse Millennial Students in College: Implications for Faculty and Student Affairs*. Stylus Publishing, LLC, 2011.
- Dowdall, Clare., Vasudevan, Lalitha and Mackey, Margaret. "Popular Culture and Curriculum." *Literacy* 48, no. 1 (April 2014): 1–3. doi:10.1111/lit.12028.
- Doyle, Terry. *Learner Centered Teaching: Putting the Research on Learning into Practice*. Stylus Publishing, LLC, 2011.
- Drumheller, Kristina. "Millennial Dogma: A Fantasy Theme Analysis of the Millennial Generation's Uses and Gratifications of Religious Content Media." *Journal of Communication & Religion* 28, no. 1 (March 2005): 47–70.
- Ember, Sydney. "Super Bowl Pressure, for Advertisers as Well as Teams." *The New York Times*, February 4, 2016. http://www.nytimes.com/2016/02/05/business/media/super-bowl-pressure-for-advertisers-as-well-as-teams.html.
- Fain, Thomas A. Jr. "American Popular Culture: Should We Integrate It into American Education?" *Education* 124, no. 4 (Summer 2004): 590–94.
- Grenier, Robin S. "Finding the Abstract from the Concrete: Considering the Use of Popular Culture Artefacts to Examine the Model of Expertise Redevelopment." *Human Resource Development International* 16, no. 3 (July 2013): 357–65. doi:10.1080/13678868.2013.787249.
- Guy, Talmadge C. "Learning Who We (and They) Are: Popular Culture as Pedagogy." *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 15–23. doi:10.1002/ace.263.
- Hall, Leigh A. "How Popular Culture Texts Inform and Shape Students' Discussions of Social Studies Texts." *Journal of Adolescent & Adult Literacy* 55, no. 4 (December 2011): 296–305. doi:10.1002/JAAL.00036.
- Hein, Jonathan R. "Treasure in Jars of Clay: The Synergy Between the Instrumental and Ministerial Causes in God's Plan of Salvation." Accessed November 16, 2015. http://essays.wls.wels.net/handle/123456789/2157.
- Hoenecke, Adolf. *Evangelical Lutheran Dogmatics*. Vol. IV. IV vols. Milwaukee, Wis: Northwestern Pub House, 1999.

- Johnson, Steven. Everything Bad Is Good for You: How Today's Popular Culture Is Actually Making Us Smarter. New York, NY: Penguin Group, 2006.
- Khan, Mussarat; Ecklund. "Attitudes Toward Muslim Americans Post-9/11." *Journal of Muslim Mental Health* 7, no. 1 (2012). doi:http://dx.doi.org/10.3998/jmmh.10381607.0007.101.
- Koh, Aaron, and Benson, Phil. "Exploring Pedagogies in the Popular Culture and Education Nexus." *Pedagogies* 6, no. 2 (April 2011): 123–29. doi:10.1080/1554480X.2011.555196.
- Kozlovic, Anton Karl. "Christian Communication in the Popular Cinema: Cross Imagery, Cruciform Poses and Pieta Stances." *Nebula* 4, no. 1 (March 2007): 143–65.
- Mueller, Aaron T. "Jesus Taught the Way of Life -- And So Do We," 2015. http://essays.wls.wels.net/handle/123456789/4123.
- Richards, Regina G. The Source for Learning & Memory Strategies, 2003.
- Rowe, Austin. "Media's Portrayal of Homosexuality as a Reflection of Cultural Acceptance." *Undergraduate Research Awards*, April 1, 2010. http://scholarworks.gsu.edu/univ_lib_ura/8.
- Sandlin, Jennifer A. "Culture, Consumption, and Adult Education: Refashioning Consumer Education for Adults as a Political Site Using a Cultural Studies Framework." *Adult Education Quarterly* 55, no. 3 (May 2005): 165–81. doi:10.1177/0741713605274626.
- Sandlin, Jennifer A. "Popular Culture, Cultural Resistance, and Anticonsumption Activism: An Exploration of Culture Jamming as Critical Adult Education." *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 73–82. doi:10.1002/ace.269.
- Schreiner, Mary B., Rothenberger, Cynthia D., and Sholtz, A. Janae. "Using Brain Research to Drive College Teaching: Innovations in Universal Course Design." *Journal on Excellence in College Teaching* 24, no. 3 (September 2013): 29–50.
- Schultz, Bob. "Millennials and the Pop Culture." *School Administrator* 64, no. 3 (March 2007): 64–64.
- Thompson, Patricia M. "The Influence of Popular Culture and Entertainment Media on Adult Education." *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 83–90. doi:10.1002/ace.270.
- Tisdell, Elizabeth J. "Popular Culture and Critical Media Literacy in Adult Education: Theory and Practice." *New Directions for Adult & Continuing Education* 2007, no. 115 (Fall 2007): 5–13. doi:10.1002/ace.262.
- Trier, James. "Designing a Case Study from the Popular Culture Text 'Boston Public." *Multicultural Education* 17, no. 4 (June 1, 2010): 49–56.
- Willis, Judy. "Brain-Based Teaching Strategies for Improving Students' Memory, Learning, and Test-Taking Success." *Childhood Education* 83, no. 5 (Annual Theme 2007): 310–15.
- Willis, Judy. Research-Based Strategies to Ignite Student Learning: Insight from a Neurologist and Classroom Teacher. Alexandria, VA: Association for Supervision and Curriculum development (ASCD), 2006.
- Willis, Judy. "What Brain Research Suggests for Teaching Reading Strategies." *Educational Forum* 73, no. 4 (January 1, 2009): 333–46.

- Wright, Robin Redmon. "Narratives from Popular Culture: Critical Implications for Adult Education." *New Directions for Adult & Continuing Education* 2010, no. 126 (Summer 2010): 49–62.
- Wright, Robin Redmon. "Zombies, Cyborgs, and Other Labor Organizers: An Introduction to Representations of Adult Learning Theories and HRD in Popular Culture." *New Horizons in Adult Education & Human Resource Development* 25, no. 1 (December 1, 2013): 5–17.
- Wright, Robin Redmon, and Sandlin, Jennifer A. "Cult TV, Hip Hop, Shape-Shifters, and Vampire Slayers: A Review of the Literature at the Intersection of Adult Education and Popular Culture." *Adult Education Quarterly* 59, no. 2 (February 2009): 118–41.